**GUIDANCE FOR THE PREPARATION OF THE CONSORTIUM-LEVEL 2015 and 2016 POWBs**

**The Consortium’s Review Criteria**

When preparing the POWB, we need to keep in mind how it will be evaluated. The evaluation criteria focus on internal coherence at levels n (CRP), n-1 (Flagship) and n-2 (Cluster of Activities), strategic content, including mainstreaming of gender research, alignment with the CRP’s IDOs and overall ‘value for money’ proposition. The science and the finance teams at the Consortium Office both review the POWB and consider:

*1. Coherence and strategic content of the narrative part: is it a convincing demonstration that the CRP has planned its work in a rigorous and strategic manner, given its IDOs?*

*2. Do planned activities at level n-2 (Cluster of Activities) provide a robust and balanced foundation for the CRP to move forward, at both levels n-2 and n-1 (Flagship)? Are there obvious gaps? Are there redundancies?*

*3. Are expected results sufficiently specific (quantified where needed) and ambitious to contribute significantly to taking the CRP down its impact pathway towards its IDOs?*

*4. Are planned budgets reasonable given the scientific and scaling up activities planned, and are they aligned with the Fin Plan?*

*5. Is the CRP contributing to coherence at system or portfolio level (level n+1), by collaborating with other appropriate CRPs? Are there potential overlaps with other CRPs?*

It is essential that the answers to these questions are explicit in the POWB.

**2015 and 2016 POWB Required Narrative Sections**

## 1. Major Planned Work (TR – based on Flagship Narratives)

Succinct and reasoned description of the work planned by the CRP in the forthcoming year pitched at Flagship level to achieve expected results as per the CRP proposal.

Should not exceed 1000 words and should be supported by and refer to Table 1.

## 2. Flagship Narratives for Level 3 Table 1 (Flagship Leaders)

This has been pre-populated with the Flagship-level budget for 2015.

**Flagship Leaders to provide a narrative of 100-150 words that summarizes what will be achieved in 2015 and how it contributes to achieving the relevant IDOs (IDO1 on productivity for the 3 technology Flagships, and IDO2-6 for the other Flagships). See Annex 2 for a list of the IDOs. Highlight, cross-CRP collaboration and gender aspects.**

Insert in Level n-1 of Table 1, in the cells entitled Key Activities Planned for 2015 and Expected Results of these Activities.

**3. Cluster of Activity Narratives for Table 1 (Flagship Leaders)**

This has been pre-populated with the title of each Cluster of Activities (2nd column); a description of each Cluster of Activity (3rd column), the Outputs in the 4th column (taken from the 2015 POWB Activity Sheets) and the Cluster level budget in the 5th column (taken from the Consolidated POWBs 2015).

**Flagship Leaders to review and correct the text relating to each Cluster of Activities (taken from the Flagship SIPs and log frames) to ensure coverage of the following:**

a. Objectives of the cluster of activities

b. Methods to be used in the research

c. Site location of the research activities and

d. Gender aspects of the work.

Make any changes/additions in Level n-2 of Table 1 for each Cluster of Activities in 3rd Column. Please pay particular attention to articulating the gender dimensions of the work of the Cluster.

**4. Gender Table 2**

This has been pre-populated with the gender outputs taken from the Activity Sheets in the POWB 2015 and associated gender budgets.

**EW & PK to provide narrative on expected gender research results per Flagship.**

Expected progress toward the CRP’s gender IDO and if relevant other IDOs that have gender equity dimension. Indicate, where relevant, the geographical areas of focus

**Schedule for 2015 and 2016 POWBs**

**14 November:** Submission of 2015 L&F POWBs to L&F Management Unit (activity budgets + summary budget) by ILRI Focal Points/Flagship leaders.

**28 November:** Dissemination of populated Table 1 of CO POWB 2015 (3.1 above) to Flagship Leaders and Table 2 (4.1 above) to Gender authors.

**31st December:** Submission of 2015 Flagship and Cluster Narratives (2 and 3.2 above) and Gender narratives (4.2 above).

**3rd January:** Dissemination of populated Table 1 of CO POWB 2016 (3.1 above) to Flagship Leaders and Table 2 (4.1 above) to Gender authors.

**17th January:** Feedback on 2015 Flagship and Cluster Narratives and gender inputs given to Flagship leaders and Gender authors by L&F Management Unit.

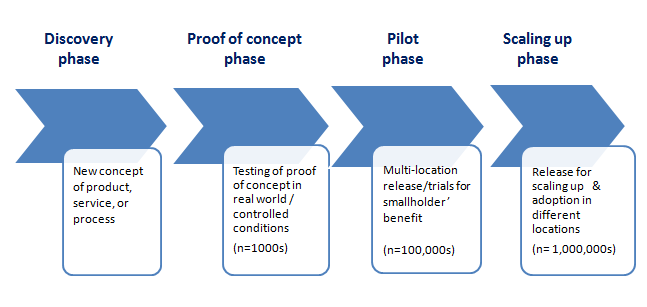
**15th January:** Submission of 2016 Flagship and Cluster Narratives (2 and 3.2 above) and Gender narratives (4.2 above).

**19th January:** Feedback on 2016 Flagship and Cluster Narratives and gender inputs given to Flagship leaders and Gender authors by L&F Management Unit.

**25th January:** Summary Narrative for 2015 and 2016 by Director.

**26th January:**  Submission of CO POWB 2015 and 2016 to ILRI Management for review.

**Annex 1: Research Continuum – Phases in Flagship Projects**



**Annex 2: List of L&F Intermediate Development Objectives**

| **IDO** | **Notes** | **Generic IDO Indicators** |
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| #1 Increased livestock and fish productivity in small-scale production systems for the target commodities (SLO2) | Reflects considerable investment in research to improve technologies related to livestock and fish productivity drivers: health, genetics and feeds. Targets capture aggregate and individual productivity. | * Yield of target commodity |
| #2 Increased quantity and improved quality of the target commodity supplied from the target small-scale production and marketing systems (SLO2) | Targets based on a combination of expected productivity gains across different social groups, food safety indicators and density of production in our target markets. | * Quantity of target commodity supplied from small-scale producers |
| #3 Increased employment and income for low-income actors in the target value chains, with an increased share of employment for and income controlled by low-income women (SLO1 and SLO3) | Targets based on income generation opportunities created within the target value chains, to be set based on planned participation levels. Gender disaggregated data collected in terms of participation in the value chain, and in the consumption of the value chain products. These targets focus on the nature of participation of women in the value chains. | * Total household income * Total household income in value chain actor household controlled by women * Employment in value chain actor households |
| #4 Increased consumption of the target commodity responsible for filling a larger share of the nutrient gap for the poor, particularly for nutritionally vulnerable populations (women of reproductive age and young children) (SLO3) | Targets nutritional benefits of commodities and anticipated research to ensure these benefits are realized under CRP4. A preliminary nutritional analysis will be required to understand the appropriate form of targets to adopt. | * Dietary Diversity (DD) |
| #5 Lower environment impacts in the target value chains (SLO4) | Targets GHG per unit produced as a proxy for enhanced productivity and value chain efficiency that contributes to reduced pressure on natural resources. | * Emission Intensity of Green House Gases (GHG) |
| #6 Policies (including investments) support the development of small-scale production and marketing systems, and seek to increase the participation of women within these value chains (SLO2 and SLO4) | Targets the level of public and private investment in the sector as a proxy of increased prioritization of the sector. | * Conducive policy and legislative environment in support of small-scale production and marketing systems * Private, donor and public investment |

**Annex 3: Lists of Extension Proposal Outputs Promised (2015-2016)**

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| **Flagship 1: Animal Health for Productivity** | |
| Cluster 1.1 Animal Health Assessment and Prioritization: Identify and prioritize sustainable, pro-poor and gender-equitable animal health interventions for increased productivity and improved public health | |
| Research and Development Outcomes: Uptake of interventions and research priorities by other researchers and LAF flagships, and through them, development partners and value chain actors. | |
| Activities | Outputs |
| * In-depth assessments of animal health constraints including from a gendered perspective in smallholder systems in Tanzania dairy, Ethiopian SR and Uganda and Vietnam pig value chains and a fish value chain conducted (2015 and 2016) | * Draft in-depth assessment report for five value chain countries, including a gendered perspective (2015 and 2016) |
| Cluster 1.2 Animal Population Health and Food Safety: Develop tools and information to train and guide actors in the targeted value chains in using best practices to improve animal health and food safety through reviews, biological surveys and randomized control trials, resulting in enhanced productivity, equity, environmental and public health conditions. | |
| Research and Development Outcomes: Increased productivity and reduced public health risks through adapted and applied herd health interventions that are gender equitable, and increased capacity of VC actors to use these. | |
| Activities | Outputs |
| * Identify potential solutions to address prioritized disease constraints and public health risks through an inventory of successes and failures, and develop a protocol for comprehensively piloting selected interventions. These will be validated and adapted based on further testing and increased understanding in 2016. * Design interventions that address public health hazards at identified entry points in target value chains. | * Inventory of intervention successes and failures, including from a gender perspective (2015) * Final protocol for comprehensive pilot study (2015) * Review of policy regulations in respect of animal health and food safety issues (2016) * Report on better management practices for improved biosecurity and food safety in the fish value chain (2015) |

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| Cluster 1.3 Disease Diagnostics and Vaccines: Generate chains through laboratory work and field trials, evidence and materials for use by vaccine and diagnostic assay researchers and manufacturers to design, make or ascertain the prospects for, new or improved vaccines and diagnostics of benefit to the target value chains through laboratory work and field trials. | |
| Research and Development Outcomes: Other researchers are using the evidence and materials generated by LAF to design new or improved vaccines and diagnostic assays that are being used to enhance livestock and fish productivity in the value chains. | |
| Activities | Outputs |
| * **ECF** immunogenicity trials, sporozoite and schizont antigen identification and p67 protection experiments (2015 and 2016) * Impact assessment of the “infection and treatment method“ (ITM) for ECF (2015 and 2016) * Improving the live ECF vaccine, including assessment of an avirulent *T. parva* strain and of the severity of risks posed by buffalo-derived parasites through 2019. * Continued research on an improved **CBPP** vaccine with testing of mutants *in vitro* (2015 and 2016) * Two types of **diagnostic assays for CBPP** tested (2015) and transfer of the protocol to the Tanzanian dairy value chain (2016) * Identification of **African Swine Fever** antigens and the establishment of a challenge model (2015 -16) * Initiation of research towards an improved CCPP vaccine, including the identification of protective antigens and establishing a challenge model and biobank (2015 and 2016) * Financial support for a Tick Vaccine sought (2015 and 2016) and initial work on cloning a FERZ gene as potential vaccine candidate (2015) * Research initiated in vaccine improvement and diagnostic assay development to support progressive control of PPR (2015 – 2016) * Respond to other priorities identified | * ECF: Data on antigens and identification of potential improvements * ITM: Protocol for sporozoite viability and data on sporozoite attenuation * CBPP: Data on candidate vaccine antigens * Performance data and CBPP diagnostic assay protocol * ASF candidate antigens and challenge model * CCPP: Data on target vaccine proteins * Tick vaccine: Three cloned FERZ homologues * PPR: Identified research priorities to support progressive control programs |

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| Cluster 1.4: Ensure equitable and adequate access for farmers in target value chains to animal health products and services through product development, socio-economic modelling, evidence-based assessments of institutional arrangements and partner landscaping. | |
| Research and Development Outcomes: Value chain actors are using gender-equitable decision support tools to enhance delivery of animal health products and services and manufacturers are using Standard Operating Procedures to produce animal health products. | |
| Activities | Outputs |
| * Live vaccine for East Coast fever (ECF) * Thermostable PPR vaccine * Improved diagnostic assay for Contagious Bovine Pleuro-Pneumonia (CBPP) * Improved production protocol for CCPP * Feasibility study on access to and demand for SPF and PCR tested shrimp in Bangladesh (2015) | * Report on ECF live vaccine support activities * Project reports on support to transfer protocols for PPR thermostable vaccine and field use * Report detailing commercialization and distribution strategy for CBPP diagnostic assay * Improved production protocol for CCPP vaccine production * Research strategy for veterinary service delivery agenda * Report on feasibility of delivery of SPF shrimp seed and PCR shrimp to small and medium enterprises in Bangladesh (2016) |

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| Flagship 2: Genetics and Breeding | |
| Cluster 2.1: System, Strategy and Genome Assessment: Develop strategies based on system and genome assessment techniques to ensure the best use of livestock and fish genetic resources in targeted value chain production systems. | |
| Research and Development Outcomes: Appropriate technical and institutional interventions are deployed and available for use.  Key stakeholders are aware of appropriate Animal and Aquatic Genetics Resource use interventions and are making informed choices. | |
| Activities | Outputs |
| * Assessments of potential target fish species and traits for genetic improvement in Bangladesh, Egypt and Ghana (2015 and 2016) * Assessments of genetic improvement of dairy in Tanzania and India and dual-purpose cattle in Nicaragua with business models for delivering improved cattle (2015 and 2016) * Phenotypic and genetic characterization of heat tolerance and adaptation in small ruminants (2015 through 2016) | * Assessment report on small fish species, Bangladesh (2015) * Annual donor report on catfish assessment in Egypt, tilapia in Ghana and carp in Bangladesh (2015) * Preliminary report on mola genetic characterization in Bangladesh (2015) * Benchmark report for African catfish performance in Egypt (2016) * Assessment report on Identification of priority carp for Bangladesh (2016) * Publication on identification of priority carp for Bangladesh (2016) * Donor report on tilapia assessment in Ghana (2016) * Reports on breeding plans and business options for delivery of improved livestock in Tanzania, India, Nicaragua, Ethiopia and Vietnam (2015-2016) * Evidence base related to genetic characterization of heat tolerance in small ruminants (2016) * Publications and reports on the assessment of heat tolerance in small ruminants (2016) |

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| Cluster 2.2: Improved Breeds and Strains: Develop more productive and adaptable breeds and strains of fish and livestock that fit the needs of the target value chain systems and markets using conventional breeding techniques, genomic technologies and participatory assessment | |
| Research and Development Outcomes: Improved breeds and strains are developed to meet the needs of target systems and users. | |
| Activities | Outputs |
| * Decision support systems and tools for the application of reproductive technologies in dairy cattle and sheep (2015 and 2016) * Ex-ante evaluation of dual-purpose cattle and pig breeding programs in Uganda and Vietnam undertaken (2015-2016) * Design and implementation of community-based breeding program for Asbi and Doyogena sites for SR in Ethiopia (2015 - 2016) * Bonga, Menz and Horro community breeding programs (2015 – 2016) * Ex-ante impact assessment of options for genetic interventions for dairy and dual-purpose cattle and pigs in target value chains (2015-2016) * Genetically improved Tilapia strains developed, consolidated and disseminated in SSA (2015-2016) * Genetically improved Nile Tilapia (Generation 13) strain developed, consolidated and disseminated. Genetically improved Blue Tilapia and catfish maintained in Egypt in 2015 and 2016. * Genetically improved tilapia strains developed, consolidated and disseminated in Asia in 2015 and 2016. | * Reports and publications on better resourced country DAGRIS in at least 5 of the 17 African countries (2016) * Reports and publications on novel gene networks for key adaptive and reproductive traits in targeted species (2016) * Reports on breeding and business plan options for targeted species (2016) * Evaluation report on implementation progress in sheep and goat improvement programs in Ethiopia (2016) * Reports on improved sheep and goat populations in Ethiopia (2016) * Reports and publications on breeding plans and delivery system options for targeted species in Nicaragua, Tanzania and Vietnam (2016) * Donor report on the production of generation 11 of Akosombo line in Ghana and generation 9 of Shiranus line in Malawi (2015) * Reports on dissemination activity (2015 and 2016) * Donor report on the production of generation 12 of *Akosombo* line in Ghana and generation 10 of Shiranus line in Malawi (2016) * Donor report on the production of generation 13 of *Abbassa* line in Egypt (2015). * Donor report on the production of generation 14 of *Abbassa* line in Egypt (2016) * Donor reports on the production of generation 14 of GIFT and generation 7 of Red tilapia, Malaysia; generation 7 of freshwater prawn and generation 4 of GIFT, India (2015) * At least two publications on the above (2015) * At least one PhD thesis on the above (2015) * Donor report on the production of generation 9 of GIFT, Bangladesh (2015) * Donor reports on breeding and dissemination activities related to two nucleus hatcheries and 10 satellite hatcheries producing quality seed (2015 and 2016) * Donor report on the genetics improvement program for Rohu, *Labeo rohita* (2015 and 2016) * Associated Briefs and news stories (2015 and 2016) * Donor reports on the production of generation 15 of GIFT and generation 8 of Red tilapia, Malaysia, generation 8 of freshwater prawn and generation 5 of GIFT, India (2016). * At least three publications on the above (2016). * Donor report on the production of generation 10 of GIFT, Bangladesh (2016) |
| Cluster 2.3: Delivery and use systems: Support delivery and end use through facilitated action research approaches and value chain and gender analysis so that appropriate breeds and strains are being widely used in targeted value chains in sustainable and equitable ways. | |
| Research and Development Outcomes: Appropriate improved breeds and strains are being equitably and sustainably used in target value chains. | |
| Activities | Outputs |
| * Value chain, gender analysis and action research on delivery systems and intra-household access to improved breeds and strains undertaken (2015-2016) * Improved mechanisms for dissemination of, and equitable access to, improved breeds and strains in Tanzania, Nicaragua, Ethiopia and Vietnam (2015-2016) * Assessments of genetic improvement of dairy and dual-purpose cattle with delivery business models for delivery in Tanzania and Nicaragua (2015 – 2016) * Develop farmer group organizational capacity and knowledge systems (2015-2016) * Assess dissemination systems in Bangladesh and Ghana and amount and amount and extent of dissemination in Bangladesh and Egypt (2015 – 2016) * Investigate on-farm performance, production efficiency and yield gap in improved tilapia in different farming systems (2015 and 2016) | * Reports evaluating gender aspects of participation and benefits from SR breeding programs (2015 and 2016) * Policy briefs on breeding policies to support sustained genetic improvement programs (2016) * Protocols for assessing production systems and genetic improvement options (2016) * Reports and publications on pilot business models for multiplying and delivering improved sheep strains in Ethiopia (2016) * Business model options for disseminating improved cattle genetics in Eastern Africa (2015 and 2016) * Management guidelines for breeds/strains (2015 and 2016) * Publication on utility of GIS approaches for determining patterns of tilapia dissemination in Philippines (2015) * Annual donor reports on dissemination systems of tilapia, small fish and carp in Bangladesh and tilapia in Ghana (2015) * Annual donor reports on the amount and extent of dissemination of improved tilapia in Bangladesh and Egypt (2015) * Final reports on dissemination systems of tilapia, small fish and carp in Bangladesh and tilapia in Ghana (2016) * Final reports on the amount and extent of dissemination of improved tilapia in Bangladesh and Egypt (2016) * Publication reviewing on-farm performance worldwide for improved tilapia (2015) * Funding proposal to investigate production efficiency and yield gap in improved tilapia (2015) * Donor reports on production efficiency and yield gap in improved tilapia (2016) * Protocols for assessing performance (2016) |

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| Cluster 2.4: Breakthrough technologies and Information systems: Develop and implement breakthrough technologies and information systems using computer and molecular modeling, image analysis and bioinformatics for improved use of genetic resources in targeted value chains. | |
| Research and Development Outcomes: Reproductive manipulation, gene discovery and more efficient genetic improvement methods are influenced by biotechnologies, molecular and bio-informatics analysis. | |
| Activities | Outputs |
| * Continued work through 2016 on developing a method of room temperature storage for cattle semen. * Novel phenotyping tools and a prototype for heat selection in cattle commences in 2015 * Behavioural assessment of cattle in oestrus in 2015. * The DAGRIS database expanded to include data from 17 African countries * New genome editing platform developed starting in 2015. * Well-characterized genetic material and matching data collected and archived 2015-2016. * Genomic tools developed | * Protocol for novel methods of room temperature storage of bovine semen (2016) * Report and publications on bovine and ram semen storage methods (2015-2016) * Reports and publications on novel gene networks responsive for key adaptive and reproductive traits in target species (SR in 2016) * Reports and publications on novel phenotyping (measuring livestock performance) methods for cattle and small ruminants (2015) and field test results of such systems in Eastern Africa (2016) * Reports and publications on a better re-sourced country DAGRIS in at least 5 of the 17 African countries (2016) * Review report on application of sperm and gene banking of fish (2015) * Funding proposal on above (2016) * Publication on genomic assessment of Abbassa Nile tilapia nucleus (2015) * Publications on genetic linkage maps for Red tilapia and GIFT (2015) * Publication on molecular tools developed for Mola (2015) * Publication on molecular tools developed for carp (2016) * Publication on genes controlling sex determination in tilapia (GIFT) (2016) |

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| Flagship 3: Feeds and Forages | |
| Cluster 3.1 Feed Technology Platform: Create a Feed Technology Platform and network, that develops and provides a set of tools for feed quality analysis, estimates of feed demand–supply scenarios, prioritisation of feed interventions, assessing & managing ecological foot-prints, ration balancing and socio economic analysis of feed demand and constraints to researchers, development practitioners, producers and private sector processors, within and beyond LAF. | |
| Research and Development Outcomes: Researchers and development practitioners follow structured interactive processes in feed interventions and are equipped with, and trained to, a range of tools | |
| Activities | Outputs |
| * Feed decision-support tools revised and tested in the light of gender concerns (2015) * Inputs for rational balancing tools suited to SSA supplied (2015) * Combined FEAST, TechFit and ration balancing tools tested in target value chains (2016) * Stationary NIRS platform complemented with additional equations originating from price-quality assessments (2015) and anti-nutritive factors and specific nutrients (2016) * Review opportunities and limitations of mobile NIRS instruments (2015) * Apply mobile NIRS approaches (2016) * Develop protocols for quality control systems for compound feeds and feed ingredients with private sector and policy makers (2015) * Protocols for feed safety control systems for compound feeds and feed ingredients adopted (2016) * Complete review of ecological footprint assessment methods for LAF value chains (2015) * Conduct ecological footprint assessments in selected value chains (2016) | * Draft gender-sensitive FEAST and TechFit tools (2015) and final set of tools (2016) * Pilot version of ration balancing tool for SSA (2015) * Final set of gender responsive tools (2016) * Updated NIRS feed analytical/phenotyping platform (2015 and 2016) * Comparative case studies of applications of mobile and stationary NIRS (2015) * Report on application mobile NIRS approaches * Evidence of availability of compound feed and feed ingredients with reliable composition (2015) * Evidence of availability of feeds compatible with food safety levels in animal sourced foods produced in target value chains (2016) * Assessment methods (2015) * Publication identifying management interventions for ecological footprint reduction in selected value chains (2016) |

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| Cluster 3.2 Assess Current Feed Resources and Devising Options for Using Them More Efficiently: Undertake research and support implementation of options that make better use of available feed resources through feed supply-demand scenarios, smart supplementation and rational balancing, targeted allocation, preservation and processing and encouragement of fodder markets and feed surplus to deficit transactions. | |
| Research and Development Outcomes: Researchers, private sector actors and development practitioners establish context-specific feed supply – demand scenarios and come up with approaches to make better use of existing feed resources in closing of supply-demand gaps | |
| Activities | Outputs |
| * Analysis of feed resources relative to current and evolving demand in target value chains (2015 and 2016) * Exploration of smart supplementation through identification of most limiting nutrients and matching protein to energy components relative to production (2015) * Strategies to improve allocations of supplements to fewer animals (2016) * Investigation of feed preservation options (2015) and promotion (2016) * Viable strategies to match feed processing options with smallholder capacity (2015 and 2016) * Fattening strategies tested in the Ethiopian SR value chain through an equity and environmental lens (2015) * Options for improved production and supply of locally manufactured quality fish feeds researched and documented (2015) | * Feeds database for targets value chains (2015) and expanded database (2016) * Feed demand-supply scenarios for target value chains (2015 and 2016) * Publications on economic analyses of feed costs relative to production costs (2015) * Intensification strategies for the production of ASF (2016) * Publications on feed preservation options (2015) * Publications on feed processing options (2015 and 2016) * Report (2016) * Reports on prospects for enhanced local fish feed supply (2015) * Local fish feed options identified and strategies for improved fish supply under testing (2016) |

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| Cluster 3.3 Producing More and Higher Quality Feed and Forage Biomass: Develop and provide more feed and forage biomass through breeding and dissemination of multi-purpose and resource-use efficient forages, food-feed-fodder crops with superior grain and fodder traits, novel feed resources from agro-business and unconventional feed resources such as algae and insects. | |
| Research and Development Outcomes: Researchers, private sector actors and development practitioners come up with approaches to close feed supply – demand gaps by providing more feed biomass of higher forage and fodder quality. | |
| Activities | Outputs |
| * Improved multipurpose and resource-use efficient forages selected and bred (2015 and 2016) * Improved multipurpose and resource-use efficient forages field tested and promoted (2015 and 2016) * Improved food-feed-forage cultivars selected and bred (2015 and 2016) * Improved food-feed forage cultivars field tested and promoted (2015 and 2016) * Potential of novel by-products from agro-business and biofuels assessed for feed value (2015 and 2016) * Exploratory research on generation of feed resources from unconventional sources (insects, algae, de novo synthesis of cells etc. (2015 and 2016)  Farmers’ evaluations of *Pennisetum pedicellatum* grass and concentrates in Ethiopia and grass in Mexico (2015)  * Field test feeding techniques for pond aquaculture that improves use of aquatic productivity in ponds and efficiency in use of external feeding inputs (2015 - 2016) | * Publication of list of superior forages and results of bio-physical evaluations (2015 and 2016) * Publication of candidate lines and at least 150,000 additional hectares of *Brachiaria*-bred lines sown in 2014/2015 season and 800,000 ha in 2016 by private sector partners in target value chains and beyond. * Publications of evidence related to increased livestock productivity and reduced GHG emissions (2016) * Publications related to potential of forage-based systems in improving GHG emissions (2015 and 2016) * Cultivars with superior grain/pod yields and crop residue quantity available (2015 and 2016) * Publications on the results of field testing 5 cultivars (2015 and 2016) * Publications on potential for increasing feed resource options (2015 and 2016) * Publications on identification of potential novel feed resources (2015 and 2016) * Evaluation report (2015) * Working paper and journal article (2015) |

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| Flagship 4: Systems Analysis for Sustainable Innovation | |
| Cluster 4.1 Value Chain Intervention Research: VC interventions researched and prioritized using trade-off, gender, farm level and landscape analytical methods to develop integrated intervention packages for adoption by target beneficiaries in targeted value chains | |
| Research and Development Outcomes: Sustainable and scalable intervention strategies are available for implementation by value chain actors and development partners and intervention packages are adopted in the target value chains. | |
| Activities | Outputs |
| * Data collection and tool development for site selection, ex-ante assessments and out-scaling continued through 2015 and 2016 * Constraints, issues and opportunities identified in collaboration with stakeholders in 2015 and 2016 * Impact assessments of best-bets impacts on productivity, income and livelihood complemented with assessments of gender and environmental concerns * Formal adoption studies, trade-off analyses and assessments of out-scaling potential conducted on the preliminary packages of best bets * Ex-ante assessment of prioritized interventions or intervention packages on animal and flock productivity and household income and trade-offs between different effects in Ethiopian value chain (2015 and 2016) * Monitoring of pilot best bet intervention package implementation | * Reports documenting the characteristics of the value chains and the key actors across all nodes (2015) * Publication of ex-ante assessment of positive impacts on productivity, income and livelihoods and potential gender and environmental concerns (2015-2016) * Prioritized lists of best-bet interventions (2015: 3 VCs; 2016: remaining VCs) * Sustainable and scalable interventions identified and targeted in 3 value chains (2016) * Ex-ante assessment report for the Ethiopian value chain (2016) |
| Cluster 4.2 System Assessments Around, Between and Beyond Value Chain Systems: The research will apply modelling and scenario-building techniques to provide wider perspectives on impacts at higher scales from and systems feedback on targeted value chains. These system analyses will indicate how current or planned value chain activities are likely to impact the surrounding environment, other value chains and other agricultural systems. | |
| Research and Development Outcomes: Lessons and insights are available for policymakers and development actors. | |
| Activities | Outputs |
| * Model identification and development (2015) * Data collation and generation, including gender data (2015) * Initial model runs leading to preliminary scenarios (2015) * Refinement of preliminary scenarios (2016) | * Model complexes suitable for systems analysis and including a wide range of parameters related to livestock and fish value chains at sub-national and global scales (2015) * Preliminary global and regional economic scenarios that include impacts on gender dynamics (2015) * Refined global and regional economic scenarios (2016) * Preliminary assessments of competition for resources and wider scale impacts on the agricultural sector (2016) |

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| Flagship 5: Value Chain Transformation and Scaling | |
| Cluster 5.1 Intervention Testing: Testing integrated packages in target value chains that are expected to foster value chain transformation using participatory action research approaches and experimental design. | |
| Research and Development Outcomes: Research and development partners jointly act to pilot and validate well thought out innovations. Development partners are more effective in delivering equitable and sustainable solutions and emergent changes in the IDO indicators are evident. | |
| Activities | Outputs |
| * Partners and development actors mapped in 2015 using social network analysis * Innovation platforms supported * Intervention packages designed and tested in close collaboration with Flagship 4 * Communications and knowledge management support and a set of research collaboration models tested in 2016 * Gender baselines completed by 2016 to provide evidence on how changes in gender equity influence the achievement of other IDOs | * Set of partner selection criteria (2015) * Guide to operation of R & D platforms (2015) * Communications and Knowledge Management Strategy (2016) * Online collaboration tools (2016) * Manual on design of integrated Gender Transformative Approaches (2016) |
| Cluster 5.2: Capacity Development for Value Chain Transformation: To increase capacity within CG centers, partner organizations and value chain actors to diagnose and overcome value chain constraints including gender, poverty, equity and sustainability and assess trade-offs. | |
| Research and Development Outcomes: Improved business management on the part of producer, farmer, women-led organizations within the private sector. An impact-change framework for measuring transformation is in use. | |
| Activities | Outputs |
| * Capacity assessment methodology and framework for assessing the transformational impacts of capacity development interventions in 2015 * Initial capacity assessment and support provided for selected flagships in certain value chains in 2015 and 2016 * Potential capacity development service providers identified in selected value chains (2015) * Value chain capacity development strategies developed (2015) * Additional capacity and training needs assessments completed and training modules developed and delivered, including social and gender analysis (2016) | * Capacity Assessment Methodology (2015) * Capacity Impact Framework (2015) * Capacity Assessments for Value Chains (2015 and 2016) * Value Chain Capacity Development Strategy documents (2015) * Comparative analysis of capacity development across value chains (2016) |

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| Cluster 5.3 Implementation actions: Research and practice melded to satisfy a substantial demand for Livestock and Fish products in target value chains through practical actions. | |
| Research and Development Outcomes: LAF products are available and accessible to men and women in the target Value Chains and beyond and there is a substantial market-oriented uptake of the interventions. Research and Development partners are responsive to the demands of value chains and animal source food system actors. | |
| Activities | Outputs |
| * Alliances established (2015 and 2016) * Business Development Strategies and incentive structures enabled (2015 and 2016) * Feedback mechanisms between the value chains and the technical flagships and between the technology flagships and this flagship established to ensure delivery of their products to target beneficiaries (2015) | * Partnership landscape reports (2015) * Inclusive stakeholder platforms and fora for articulating demand for solutions and influencing policy (2016) * Innovations’ uptake pathways for achieving scaling (2016) * Compendia of demanded solutions at value chain level with gender responsive assessment of the constraints and opportunities to leverage through technologies (2016) * Peer-reviewed publications and policy briefs (2015 and 2016) |